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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/046,790	01/15/2002	Romain Cabasson		6424

7590 11/02/2004

Patent Department
Mitsubishi Electric Research Laboratories, Inc.
201 Broadway
Cambridge, MA 02139

EXAMINER	
AN, SHAWN S	
ART UNIT	**PAPER NUMBER**
2613	

DATE MAILED: 11/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/046,790	CABASSON ET AL.
	Examiner	Art Unit
	Shawn S An	2613

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,7,14 and 15* is/are rejected.

7)☐ Claim(s) *4-6,8-13,16 and 17* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 1 and 14 are rejected under 35 U.S.C. 102(e) as being anticipated by Divakaran et al (6,763,069 B1).

Regarding claims 1 and 14, Divakaran et al discloses a system/method for summarizing a compressed video, comprising:

means for detecting audio peaks in an audio signal of the video (Fig. 2, 203);

means for quantizing motion activity in the video as a continuous stream of pulses (202); and

means for correlating the audio peaks with the stream of quantized pulses to identify uninteresting events and interesting events in the video to summarized the video (Fig. 1; col. 5, lines 31-57).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 2, 7, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Divakaran et al (6,763,069 B1).

Regarding claims 2 and 15, Divakaran et al discloses means for concatenating frames of the video associated with the interesting events to form a summary of the video (Fig. 1).

The recited feature of discarding frames of the video associated with the uninteresting events is an obvious process, since indexing or summarizing video involves reducing the content of the video. Therefore, unused portion of the content of the video such as undesired or unintertesting events would be deleted or discarded.

Regarding claim 7, the Examiner takes official notice that measuring an average of motion vectors of P-frame to extract motion activity is well known in the art.

Therefore, it would clearly would have been obvious to a person of ordinary skill in the art employing a system/method for summarizing a compressed video to incorporate the well known concept as above since most of the motion vector associated with P-frames are mostly related with the global motion, thereby efficiently extracting the motion activity.

5. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Divakaran et al (6,763,069 B1) in view of Hinderks (6,339,756 B1).

Regarding claim 3, Divakaran et al fails to disclose subsampling the audio signal of the video down to a volume contour and applying a sliding window to the volume contour to detect a local maximum corresponding to a particulr audio peak.

However, Hinderks teaches an audio compressor comprising determining maximum level of the audio signal within the current subband (subsampling) based on one of the audio peak or RMS value (col. 23, lines 11-19).

Therefore, it would clearly would have been obvious to a person of ordinary skill in the art employing a system/method for summarizing a compressed video as taught by Divakaran et al to incorporate the well known concept as above for subsampling the audio signal of the video down to a volume contour and applying a sliding window to the volume contour to detect a local maximum corresponding to a particular audio peak as an efficient way to detect peak audio signal to be used in Divakaran et al's audio features.

Allowable Subject Matter

6. Claims 4-6, 8-13, and 16-17 are objected to as being dependent upon a rejected base claims 1 and 14, respectively, but would be allowable: if either claim 4 or claim 5 is rewritten in independent form including all of the limitations of the base claim 1 and any intervening claims; and/or if claim 6 is rewritten in independent form including all of the limitations of the base claim 1; and claim 16 is rewritten in independent form including all of the limitations of the base claim 14.

Dependent claims 6, 8-13, and 16-17 recite novel features at least comprising

extracting the motion activity from each P-frame in the video;

applying a moving average filter and a moving median filter to the extracted motion activity to generate smoothed motion activity; and

setting the smoothed motion activity for each P-frame to one if greater than a predetermined threshold, and zero otherwise to quantize the motion activity as the continuous stream of pulses.

Dependent claims 4-5 recite novel features at least comprising:

the local maximum being detected when (local Max – local Min) > (global Max – global Min) / 3, using a local minimum, and predetermined global maximum and a predetermined global minimum.

Accordingly, if the amendments are made to the claims listed above, and if rejected claims are canceled, the application would be placed in condition for allowance.

Conclusion

7. The prior art made of record is considered pertinent to applicant's disclosure.

A) Dufaux et al (6,782,049 B1), System for selecting a keyframe to represent a video.

8. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to ***Shawn S An*** whose telephone number is 703-305-0099. The Examiner can normally be reached on Flex hours (10).

9. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

10. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SSA
Primary Patent Examiner
10/26/04